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ADDENDUM TO THE GEOLOGIC REPORT OF THE WESTLAKE LANDFILL AREA

NOV 21 1980

ST. LOUIS COUNTY, MISSOURI

SOLID WASTE

MANAGEMENT PROGRAM

LOCATION: Between Old Rock Hill Road and New Rock Hill Road, east of Earth City, Mo. 46 N., R. 5 E., St. Charles Quadrangle.

Reconnaissance of the landfill and quarry area during September and October 1980 did not reveal any surface or subsurface discharge of leachates except for that moving into the northeast quarry area known as Black Diamond Lake. The majority of the landfill area is on the floodplain of the Missouri River including a portion of quarry in the northeast part of the fill area. The quarry evidently went through alluvial material into bedrock.

The portion of the landfill on the alluvial floodplain of the Missouri River is resting on a variable soil condition. For instance, near to the bluff on the south side of the landfill, a clay-silty clay soil overlies sand and the alluvial water table. To the west and northwest of the landfill, silt overlies sand and the water table. Immediately north of the landfill, fine sand is present from the surface down to the water table. These varying surface and subsurface soil conditions reflect a changing bottom condition in the whole landfill area that hopefully have been considered during operation or foundation preparation prior to filling in the various parts of the landfill.

The landfill in general appears to have a surface drainage problem in that apparently most rainfall falling on the site soaks into the interior of the landfill rather than running off as overland flow. This problem appears to be being corrected as of this date.

The dike around the landfill on the north and western area is failing at many localities. This failure of the dike material could be the result of oversteep slopes or pressure exerted by settlement of the landfill debris inside of the dike. The interior area of the landfill does not appear to pond water so relatively high permeability of the cover and landfill debris is expected. If no build up of water within the landfill can be documented, then movement of surface water through the fill into the alluvial material is suspected.

Test drilling outside of the landfill area on the floodplain the last week of October 1980 was done to determine the elevation to the alluvial water table as well as an attempt to establish the gradient of the alluvial water. Only a portion of the holes were drilled because of time limitations. Water samples obtained from the drilling are to be analyzed to determine if the additional holes planned will be necessary. No attempt was made to place monitoring wells or to otherwise save the drill holes. If chemical testing of the shallow alluvial water indicates more drilling is needed, the drilling program will result in a final recommendation on the placement of monitoring wells in the landfill area.

The attached sketches indicate the location of the bore holes and the location of the planned bore holes. Additional sketches attempt to trace the development history of the quarry and disposal area from 1941 to 1980. The aerial photography could not be interpreted to the point of distinguishing between the quarry waste and landfill material particularly between 1968 and 1971.

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SUPERFUND RECORDS

St. Louis West Lake 412
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Elev. 17.8
Date 11/17/80
cm

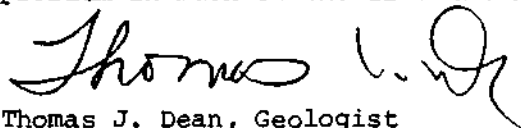
DNR 0211

The movement of leachate through a natural rock retaining wall from the quarry that is presently being filled into the quarry to the east appears to be lessening considerably with time. There is no reason to suspect that leachate is moving in any other direction at this same horizon, but lowering of the leachate level in the landfill quarry would be recommended as a precaution. This could probably be accomplished by pumping from the control well or wells in that area.

The preliminary drilling data suggests a water table gradient to the north, north-east paralleling the bluff line. If shallow movement of leachate is taking place, holes #4 and #5 should indicate if that is or is not occurring.

Completion of the drilling program will be done if necessary after results of the chemical tests are obtained from the laboratory at Jefferson City.

Much more efficient leachate control can probably be accomplished by grading, filling and/or otherwise enhancing surface runoff from the closed out landfill areas. Infiltration of rain water appears to be a problem in much of the landfill area.



Thomas J. Dean, Geologist
Engineering Geology Section
Geology & Land Survey
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orig: Robbie Robinson